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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,927	02/11/2004	Ari Vilander	875.0131.U1(US)	5509
29683	7590	03/08/2005	EXAMINER	
HARRINGTON & SMITH, LLP			LE, DINH THANH	
4 RESEARCH DRIVE			ART UNIT	
SHELTON, CT 06484-6212			PAPER NUMBER	
			2816	

DATE MAILED: 03/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.H.

Office Action Summary

Application No.

10/777,927

Applicant(s)

VILANDER ET AL.

Examiner

DINH T. LE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/11/04</u> . | 6) <input type="checkbox"/> Other: ____. |

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DETAILED ACTION

Specification

The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections

Claim Rejections - 35 USC § 112

Claims 16 and 33 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Correction or clarification is required.

In claim 16, it is not understood how the circuit can be operated with a supply voltage of about one volt, where the supply voltage comes from and how this voltage can be connected to the circuit. The same is true for claim 33.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-33 are rejected under 35 USC 103 (a) as being unpatentable over Figures 1, 5A and 7A

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of the applicant's admitted prior art in view of Tsuchi (US2002/0084840).

The admitted prior art discloses a receiver circuit which is implemented on an IC and includes mixers (5A) as shown in Figure 1. The mixer circuits as shown in Figures 5A, 7A and 8A comprising:

- a first input device (M1, Q1) and a second input device (M2, Q2) each having a control terminal coupled to a radio frequency input signal (VRF);
 - unmarked resistors in Figures 5A and 7A;
 - degenerated impedance (RE); and
 - a bias setting device (MB, QB) having a control terminal coupled to said radio frequency input signal through unmarked capacitors and an output coupled to said control terminal of each of said (M1, Q1) and (M2, Q2);
- However the admitted prior art does not disclose that the transistors (MB, QB) is partitioned into two equal sized paralleled bias setting devices (MB1, QB1) and (MB2, QB2), where (MB1, QB1) and (MB2, QB2) are coupled to said control terminals of (M1, Q1 and M2, Q2) for establishing a bias voltage at the control terminals of (M1, Q1 and M2, Q2). Tsuchi teaches in Figures 12-13 a circuit comprising a transistor (211, Figure 12) being replaced by two parallel transistors (211B, 211A) having the same size for preventing a variance in transistor characteristics caused by manufacturing process, see lines 13-22, column 1 of page 12. It would have been obvious to a person having skill in the art at the time the invention was made to employ two equal size biasing transistors taught by Tsuchi in the circuits of the admitted prior art for the purpose of preventing a variance of the transistors characteristics caused by manufacturing process. Noted that the modified circuits of the admitted prior art in view of

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Tsuchi would provide the circuits having structures similar to the claimed structures as recited in claims 2-9, 17-21 and 29-32. In particular, the value of the new degeneration impedances of the modified circuit should be about twice the value of the resistor R_E as shown in Figure 8A of the admitted prior art in order to keep the modified circuit performing the same function as the admitted prior art circuit.

With regard to claims 11-14 and 22-25, since the cellular phone includes a receiver, obviously, the modified mixer circuits of the admitted prior art can be used in the cellular phone as shown in Figure 1 of the admitted prior art.

With regard to claims 16, 26-27 and 33, since the modified circuit of the admitted prior art has the same structures and components as the structure of the claimed circuits, obviously, the modified circuits of the admitted prior art can be operate in a supply voltage of one volt or 1.2 volts

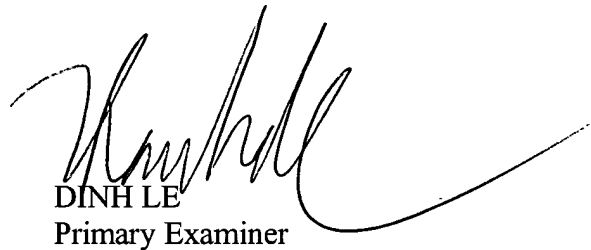
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DINH T. LE whose telephone number is (571) 272-1745. The examiner can normally be reached on Monday-Friday (8AM-7PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY CALLAHAN can be reached at (571) 272-1740.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



DINH LE
Primary Examiner